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TO	FROM
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Date: June 16, 2009	Our File No.: 08971.0005-00
Subject: Application No. 10/712,396	

Confirmation Copy to Follow: No

MESSAGE

Please attachment.

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Applicant Initiated Interview Request Form

Application No.: 10/712,396
First Named Applicant: Steven Y. Zhou
Status of Application: Rejected

Examiner: Saket K. Daftuar
Group Art Unit: 2451

Tentative Participants:

(1) Arthur A. Smith (2)

(3) Michael T. Moore (4)

Proposed Date of Interview: ASAP

Proposed Time: Afternoon

Type of Interview Requested:

- ☒ Telephonic
- ☐ Personal
- ☐ Video Conference

Exhibit to be Shown or Demonstrated?

- ☐ Yes
- ☒ No

If yes, provide brief description:

Issues to be Discussed

Issues (Rej., Obj. etc.)	Claims/Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
1. Objection	1-45		☐	☐	☐
2. Rejection	27-29 under § 101		☐	☐	☐
3. Rejection	1-19, 21, 22, 24-45 under § 103(a)		☐	☐	☐

☒ Continuation Sheet Attached

Brief Description of Arguments to be Presented:
(a) Proposed claim amendments to overcome claim objection and 101 rejection.
(b) Deficiencies of prior art.

An interview was conducted on the above-identified application on: _____.

Note: This form should be completed by applicant and submitted to the Examiner in advance of the interview (see MPEP § 713.01). This application will not be delayed from issue because of applicant's failure to file a statement of the substance of this interview (37 CFR § 1.133(b)) as soon as possible.

Arthur A. Smith, Reg. No. 56,877

Examiner/SPE Signature

Application Nos.: 10/712,396
Attorney Docket No.: 08971.0005-00

Outline for Interview
FOR DISCUSSION PURPOSES ONLY

I. Objection of Claims 1-45 and Rejection of Claims 27-29

A. Claim Amendments - "Processing Unit"

1. Claim amendments to replace "processor" with "processing unit"
2. Support may be found in, for example, paragraphs 027 and 030.

B. At a Minimum, Prior Art Fails to Teach or Suggest Modifying First Address as Recited in the Claims

1. *Partridge et al.*

a) Does not disclose a firewall.

b) Discloses a router forwarding packets "which will be assigned to it by the various interface cards." (5:2-6.)

2. *Mikkonen*

a) Discloses using a router node or a firewall node to provide for fault tolerance through redundancy. (2:14-43.)

b) For example, first node includes redundant inactive interfaces (cards) that have the same IP and MAC address as interfaces present on a second node. If the second node fails, the first node activates the inactive interfaces. (*Id.* and 36:32-34).

3. *Bommareddy et al.*

a) Discloses the use of firewall clustering system. (6:13-22.)

b) "The firewalls perform filtering operations and/or network address translation (NAT) services. (6:59-61, 8:61-9:21.)

(1) NAT used to "modify each packet, changing the destination address from its IP address to the actual address of the server that is to receive the traffic" and to "modify the 'From' address in each packet to create the appearance that the PC load balancer sent the packets." (2:38-44.)

PROPOSED AMENDMENTS TO THE CLAIMS
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1. (Currently Amended) A method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes comprising one or more processing units, the method comprising:

selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a first packet;

receiving, at a first ~~processor~~ processing unit associated with the selected firewall node, the first packet;

modifying, by the first ~~processor~~ processing unit, as a function of a multidimensional space for representing addresses processed by a set of ~~data processors~~ processing units, a first address for the first packet into a second address for the first packet, the second address being within a range of addresses assigned only to the selected firewall node; and

forwarding the first packet based on the second address.

2. (Original) The method of claim 1, further comprising:

using an N-tuple space as the multidimensional space.

3. (Currently Amended) The method of claim 2, further comprising:

assigning to the first ~~processor~~ processing unit a first region based on the N-tuple space.

PROPOSED AMENDMENTS TO THE CLAIMS
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4. (Original) The method of claim 3, further comprising:

using the first address, such that the first address represents a point within the first region.

5. (Original) The method of claim 4, further comprising:

using N address values as the N-tuple, such that the N address values represent the point.

6. (Original) The method of claim 2, further comprising:

using the N-tuple space, such that N is equal to a value of at least two.

7. (Currently Amended) The method of claim 3, further comprising:

assigning to a second ~~processor~~ processing unit a second region based on the N-tuple space, such that the first region is separate from the second region.

8. (Currently Amended) The method of claim 7, further comprising:

forwarding, at the second ~~processor~~ processing unit, a second packet with the second address determined based on the second region, such that the second packet does not conflict with the first packet.

**PROPOSED AMENDMENTS TO THE CLAIMS
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9. (Currently Amended) The method of claim 7, further comprising:

forwarding, at the second ~~processor~~ processing unit, a second packet with the second address determined based on the second region, such that the second address does not conflict with the first address.

10. (Currently Amended) A method for addressing packets associated with a plurality of ~~processors~~ processing units, each ~~processor~~ processing unit being associated with one of a plurality of firewall nodes in a firewall cluster within a single network, the method comprising:

selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

receiving, at the first ~~processor~~ processing unit, the packet;

reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

determining, by the first ~~processor~~ processing unit, whether the N-tuple address is within an N-tuple space assigned to the first ~~processor~~ processing unit;

sending the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first ~~processor~~ processing unit; and

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determining a modified N-tuple address, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first ~~processor~~ processing unit and sending the packet based on the modified N-tuple address.

11. (Original) The method of claim 10, wherein the reading step further comprises:

reading as the N-tuple address, a plurality of values from the received packet.

12. (Original) The method of claim 11, wherein the reading step further comprises:

reading at least a source port.

13. (Currently Amended) The method of claim 10, wherein the step of determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address is within the N-tuple space based on a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first ~~processor~~ processing unit.

14. (Currently Amended) The method of claim 10, wherein the step of determining whether the N-tuple address is within the N-tuple space, further comprises:

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determining whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier value corresponds to the first ~~processor~~ processing unit.

15. (Original) The method of claim 14, wherein the step of determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function.

16. (Original) The method of claim 14, wherein the step of determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function and a modulo division.

17. (Currently Amended) The method of claim 10, wherein the step of determining the modified N-tuple further comprises:

adding a value to the N-tuple address, such that the modified N-tuple address is within the N-tuple space assigned to the first ~~processor~~ processing unit.

18. (Original) The method of claim 14, wherein the step of determining the modified N-tuple address further comprises:

modifying the N-tuple address based on the quadrant identifier value.

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19. (Currently Amended) The method of claim 10, wherein the step of sending the packet with the N-tuple address, further comprises:

sending the packet with the N-tuple address, such that the packet does not conflict with another N-tuple address associated with a second one of the ~~processors~~ processing units.

20. (Cancelled).

21. (Currently Amended) The method of claim 10, further comprising:

using a computer as the first ~~processor~~ processing unit.

22. (Currently Amended) The method of claim 10, further comprising:

using a router as the first ~~processor~~ processing unit.

23. (Cancelled).

24. (Currently Amended) A method of addressing packets in a firewall cluster within a singe network, wherein the firewall cluster comprises a set of ~~processors~~ processing units, each ~~processor~~ processing unit being associated with a firewall node, the method comprising:

**PROPOSED AMENDMENTS TO THE CLAIMS
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selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

receiving, at the first ~~processor~~ processing unit, the packet;

reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

determining whether the read N-tuple address corresponds to the first ~~processor~~ processing unit based on the quadrant identifier;

sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first ~~processor~~ processing unit; and

determining a modified N-tuple address, when the quadrant identifier does not correspond to the first ~~processor~~ processing unit and sending the packet based on the modified N-tuple address.

25. (Currently Amended) The method of claim 24, further comprising:

assigning each of the set of ~~processors~~ processing units a firewall node number.

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26. (Currently Amended) The method of claim 25, further comprising:

determining whether the N-tuple address corresponds to the first ~~processor~~ processing unit based on the quadrant identifier and the firewall node number.

27. (Currently Amended) A system for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the system comprising:

means for selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a first packet;

means for receiving, at a first ~~processor~~ processing unit associated with the selected firewall node, the first packet;

means for modifying as a function of a multidimensional space for representing addresses processed by a set of data ~~processors~~ processing units, a first address for the first packet into a second address for the first packet, the second address being within a range of addresses assigned only to the selected firewall node; and

means for forwarding the first packet based on the second address.

28. (Currently Amended) A system for addressing packets associated with one or more ~~processors~~ processing units, each ~~processor~~ processing unit being

**PROPOSED AMENDMENTS TO THE CLAIMS
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associated with a firewall node in a firewall cluster within a single network, the system comprising:

means for selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

means for receiving, at the first ~~processor~~ processing unit, the packet;

means for reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

means for determining whether the N-tuple address is within an N-tuple space assigned to the first ~~processor~~ processing unit;

means for sending the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first ~~processor~~ processing unit; and

means for determining a modified N-tuple address, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first ~~processor~~ processing unit and sending the packet based on the modified N-tuple address.

29. (Currently Amended) A firewall cluster within a single network including one or more firewall nodes associated with one or more ~~processors~~ processing units, comprising:

**PROPOSED AMENDMENTS TO THE CLAIMS
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means for selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

means for receiving, at the first ~~processor~~ processing unit, the packet;

means for reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

means for determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

means for determining whether the read N-tuple address corresponds to the first ~~processor~~ processing unit based on the quadrant identifier;

means for sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first ~~processor~~ processing unit; and

means for determining a modified N-tuple address, when the quadrant identifier does not corresponds to the first ~~processor~~ processing unit and sending the packet based on the modified N-tuple address.

30. (Currently Amended) A system including a firewall cluster within a single network including a plurality of firewall nodes, the firewall nodes being associated with one or more ~~processors~~ processing units, said system comprising:

at least one memory comprising:

**PROPOSED AMENDMENTS TO THE CLAIMS
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code that selects, from the firewall cluster within the single network, one of the firewall nodes for processing a first packet, the selected firewall node including a first ~~processor~~ processing unit;

code that receives, at the first ~~processor~~ processing unit, the first packet;

code that modifies, as a function of a multidimensional space for representing addresses processed by a set of data ~~processors~~ processing units, a first address for the first packet into a second address for the first packet, the second address being within a range of addresses assigned only to the selected firewall node; and

code that forwards the first packet based on the second address; and

at least one ~~processor~~ processing unit for executing the code.

31. (Currently Amended) A system including a firewall cluster within a single network including a plurality of firewall nodes, the firewall nodes being associated with one or more ~~processors~~ processing units, the system comprising:

at least one memory comprising:

code that selects, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

PROPOSED AMENDMENTS TO THE CLAIMS FOR DISCUSSION PURPOSES ONLY - DO NOT ENTER

code that receives, at the first ~~processor~~ processing unit, the packet;

code that reads, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

code that determines whether the N-tuple address is within an N-tuple space assigned to the first ~~processor~~ processing unit;

code that sends the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first ~~processor~~ processing unit; and

code that determines a modified N-tuple address, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first ~~processor~~ processing unit and sending the packet based on the modified N-tuple address; and

at least one ~~processor~~ processing unit for executing the code.

32. (Original) The system of claim 31, wherein code that reads further comprises:

code that reads as the N-tuple address, a plurality of values from the received packet.

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33. (Original) The system of claim 32, wherein code that reads the plurality of values further comprises:

code that reads at least a source port.

34. (Currently Amended) The system of claim 31, wherein code that determines whether the N-tuple address is within the N-tuple space, further comprises:

code that determines whether the N-tuple address is within the N-tuple space based a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first ~~processor~~ processing unit.

35. (Currently Amended) The system of claim 31, wherein code that determines whether the N-tuple address is within the N-tuple space, further comprises:

code that determines whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier corresponds to the first ~~processor~~ processing unit.

36. (Original) The system of claim 35 wherein code that determines whether the N-tuple address of the packet is within the N-tuple space, further comprises:

code that determines the quadrant identifier value based on a hash function.

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37. (Currently Amended) A firewall cluster including a plurality of firewall nodes within a single network, the firewall nodes being associated with one or more ~~processors~~ processing units, the firewall cluster comprising:

at least one memory comprising

code that selects, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

code that receives, at the first ~~processor~~ processing unit, the packet;

code that reads, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

code that determines a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

code that determines whether the read N-tuple address corresponds to the first ~~processor~~ processing unit based on the quadrant identifier;

code that sends the packet with the N-tuple address, when the quadrant identifier corresponds to the first ~~processor~~ processing unit; and

code that determines a modified N-tuple address, when the quadrant identifier does not corresponds to the first ~~processor~~ processing unit and sends the packet based on the modified N-tuple address; and

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at least one ~~processor~~ processing unit for executing the code.

38. (Currently Amended) A computer-readable storage medium comprising instructions which, when executed by a ~~processor~~ processing unit, perform a method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method including:

selecting one, from the firewall cluster within the single network, of the firewall nodes for processing a packet, the selected firewall node being associated with a first ~~processor~~ processing unit;

receiving, at the first ~~processor~~ processing unit, the packet;

reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

determining whether the N-tuple address is within an N-tuple space assigned to the first ~~processor~~ processing unit;

sending the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first ~~processor~~ processing unit; and

determining a modified N-tuple address, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first ~~processor~~ processing unit and sending the packet based on the modified N-tuple address.

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39. (Currently Amended) The computer-readable storage medium of claim 38, wherein reading further comprises:

reading as the N-tuple address, a plurality of values from the received packet.

40. (Previously Presented) The computer-readable storage medium of claim 39, wherein reading the plurality of values further comprises:

reading at least a source port.

41. (Currently Amended) The computer-readable storage medium of claim 39, wherein determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address is within the N-tuple space based a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first ~~processor~~ processing unit.

42. (Currently Amended) The computer-readable storage medium of claim 39, wherein determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier value corresponds to the first ~~processor~~ processing unit.

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43. (Previously Presented) The computer-readable storage medium of claim 42, wherein determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function.

44. (Currently Amended) A computer-readable storage medium comprising instructions which, when executed by a ~~processor~~ processing unit, perform a method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method including:

selecting, from the firewall cluster within the single network, one of the firewall nodes for processing a packet, the selected firewall node including a first ~~processor~~ processing unit;

receiving, at the first ~~processor~~ processing unit, the packet;

reading, at the first ~~processor~~ processing unit, an N-tuple address of the received packet;

determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

determining whether the read N-tuple address corresponds to the first ~~processor~~ processing unit based on the quadrant identifier;

sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first ~~processor~~ processing unit; and

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determining a modified N-tuple address, when the quadrant identifier does not corresponds to the first ~~processor~~ processing unit and sending the packet based on the modified N-tuple address.

45. (Currently Amended) A computer-readable storage medium comprising instructions which, when executed by a ~~processor~~ processing unit, perform a method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method including:

selecting, from the firewall cluster within the single network, one of the firewall nodes within the single network for processing a first packet, the selected firewall node being associated with a first ~~processor~~ processing unit;

receiving, at the first ~~processor~~ processing unit, the first packet;

modifying, as a function of a multidimensional space for representing addresses processed by a set of data ~~processors~~ processing units, a first address for the first packet into a second address for the first packet, the second address being within a range of addresses assigned only to the selected firewall node; and

forwarding the first packet based on the second address.